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**Observations of laser beam deflection in transverse flow.\*** P.E. YOUNG, D.E. HINKEL, C.H. STILL, R.L. BERGER, K.G. ESTABROOK, J.H. HAMMER, W.L. KRUEER, E.A. WILLIAMS, LLNL — The formation of density channels in the presence of transverse flow in low-Z and high-Z underdense plasmas has been studied using the Janus laser at LLNL. A 100-ps, 1.06  $\mu\text{m}$  interaction pulse with a peak intensity of  $5 \times 10^{16} \text{ W/cm}^2$  interacts with plasmas preformed using tilted targets to introduce a transverse flow. The background density profile and the channel formed by the interaction pulse are measured using interferometry. Side-scattered laser light is also imaged to trace the propagation path of the interaction beam. We can systematically vary the laser intensity  $I_L$  and the peak electron density  $n_e$  to compare experiment to predicted beam deflection scaling.<sup>1</sup> The experimental results are modeled using both the linear and nonlinear version of the F3D code<sup>2</sup>.

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<sup>1</sup>D.E. Hinkel and E.A. Williams, in press, Phys. Rev. Lett.(1995); W.L. Krueer, BAPS **40**, 1824 (1995).

<sup>2</sup>R. Berger et al., Phys. Fluids B **5**, 2243 (1993).

☐ Prefer Oral Session  
☒ Prefer Poster Session

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